

LONG RANGE ROAD MAINTENANCE AND RECONSTRUCTION BUDGET FORECASTING

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The following Long Range Road Maintenance and Reconstruction Budget Forecasting format has been developed to help our local town governments create a uniform basis of comparison between towns and create a basis for a comprehensive needs analysis to share with our state elected officials. This tool will generate a rough comprehension of each town's needs, but will lack in many variables that must be considered in each of our towns based on sub-soils conditions, types of traffic, traffic counts, past maintenance and many other considerations that would skew these numbers. To help us generalize a format for base maintenance and reconstruction, I have used general life span figures we have been given in classes I have attended over the years by WI-Dept. of Transportation and UW -Transportation Information Center. I have taken time to review a lot of information available to us but have found more inconsistencies than published formats as to how to generate long term road budgets. In their defense, I have not navigated the entire plethora of information available and understand the dilemma faced with trying to have a forecasting tool that fits every township. I am also not incorporating in some of the newest methods of maintenance and surface coatings out there to keep our forecast somewhat simple.

Your time and effort to develop a Long Range Road Maintenance and Reconstruction Budget Forecast for your town will help you formulate a long term budget number for your town. If collected by your WTA county unit and compiled by the WTA, we can show a common need to address the road maintenance and reconstruction budget shortfalls we know exist in our towns. This information will be shared with our state elected officials to bring evidence to the table and a hope to induce a relationship, or better yet a partnership to fix our road budget shortfalls.

For this exercise, I will use a sample township for numbers and show the format used. Our primary concentration will be paved roads. I know many of you have considerable number of gravel roads. I will try to share this format too.

You will need the following information available to use this budgeting tool:

1. Total Road Maintenance Budget for Town
2. Total number of miles of asphalt roads-can get from WISLR
3. Total number of miles of gravel roads-can get from WISLR
4. Projected cost per mile for crack-fill of asphalt roads- from your contractor or County
5. Projected cost per mile for chip-seal of asphalt roads-from your contractor or County
6. Projected cost per mile of grading of gravel roads-from contractor, County or town cost
7. Projected cost per mile to grade and add 3" base-from contractor, County or town cost
8. Projected cost per mile of reconstruction of gravel roads -from contractor, County
9. Projected cost per mile for town road reconstruction-from contractor, County
10. Projected average cost per year snow removal, salt/sand operations
11. Projected average cost per year sign inventory and replacement
12. Projected average cost per year shouldering repairs

13. Projected average cost per year ditch mowing and weed control

Most road maintenance methodology states our priority funding should first go to keeping good roads good. The general rule for maintenance of asphalt roads is to perform crack-fill and seal coat every 5 years to extend to useable life expectancy of the asphalt road to a 25-30 year term for town roads. State roads are expected to last 15-20 years with proper maintenance. For purposes of this budgeting tool on asphalt surfaces roads we will extend the surface maintenance frequency to every 8 years and road life expectancy to 50 years before need of reconstruction. For purposes of this budgeting tool on gravel roads we will forecast quarterly grading of roads, adding and reshaping base every 5 years and reconstruction every 20 years.

LONG RANGE ROAD MAINTENANCE AND RECONSTRUCTION BUDGET FORECAST

FOR TOWN of: _____

Total Miles of Road in Town: _____
 Miles of Asphalt Roads: _____
 Miles of Gravel Roads: _____
 Total: _____

Maintenance and Reconstruction Frequency Calculations:

Miles of Asphalt Roads _____
 Divided by 8 year maintenance cycle \div 8

(1) Number of Miles per year
 needing annual crack-fill and chip-
 seal

Miles of Asphalt Roads _____
 Divided by 50 year life cycle \div 50

(2) Number of Miles per year
 needing reconstruction annually

Miles of Gravel Roads _____
 Multiplied by cyclic grading needs \times 3

(3) of Miles per year needing
 Cyclic grading

Miles of Gravel Roads _____
 Divided by 5 year grade and add 3" base \div 5

(4) Number of Miles per year
 needing reshape and 3" gravel base
 addition

Miles of Gravel Roads _____
 Divided by 20 Year Life Cycle \div 20

(5) Number of Miles per year
 needing reconstruction and ditch
 reshaping

Total Miles of Roads _____
 Multiplied by average signs per mile \times 7
 Divided by 12 year projected sign life \div 12

(6) Number of signs per year
 needing Replacement
 (Federal retro-reflectivity guidelines)

Total Miles of Roads _____
 Divided by average annual miles shouldering ÷ _____

(7) Number of Miles per year
 needing Shouldering maintenance

Current Value Projected Costs per Mile Maintenance and Reconstruction Calculations:

Projected cost per mile for crack-fill of asphalt roads	\$_____ (20)
Projected cost per mile for chip-seal of asphalt roads	\$_____ (21)
Projected cost per mile of grading of gravel roads	\$_____ (22)
Projected cost per mile to grade and add 3" base	\$_____ (23)
Projected cost per mile of reconstruction of gravel roads	\$_____ (24)
Projected cost per mile for asphalt town road reconstruction	\$_____ (25)
Projected average cost per year snow removal, salt/sand operations	\$_____ (26)
Projected average cost per year sign replacement per sign	\$_____ (27)
Projected average cost per year shouldering repairs	\$_____ (28)
Projected average cost per year ditch mowing and weed control	\$_____ (29)
Projected average cost per year Asphalt Road Patching/repairs/overlays	\$_____ (19)

Long Range Road Maintenance and Reconstruction Budget Forecast:

Annual Asphalt Road Budget Projection: (A) \$ _____ + (B) \$ _____ = \$ _____ (30)

Annual number of miles needing crack-fill and chip-seal (1) _____ miles
 Cost per mile of crack-fill (20) + Chip-seal (21) x \$ _____ per mile
Total Annual Projected Crack-fill and Chip-seal: \$ _____ (A)

Annual number of miles needing asphalt reconstruction (2) _____ miles
 Cost per mile of Reconstruction of asphalt roads (25) x \$ _____ per mile
Total Annual Projected Asphalt Road Reconstruction Costs \$ _____ (B)

Annual Gravel Road Budget Projection: (C) \$ _____ + (D) \$ _____ + (E) \$ _____ = \$ _____ (31)

Annual number of miles needing grading (3) _____ miles
 Average Cost per mile to grade (22) x \$ _____ per mile
Total Annual Projected Cost for Cyclic Grading: \$ _____ (C)

Annual number of miles needing reshape and 3" gravel (4) _____ miles
 Average cost per mile to reshape base and add 3" to base (23) x \$ _____ per mile
Total Annual Projected Cost for 3" base addition and reshape: \$ _____ (D)

Annual number of miles needing reconstruction-gravel (5) _____ mile(s)
 Average Cost per mile to reconstruct gravel road (24) x \$ _____ per mile
Total Annual Projected Cost to reconstruct gravel roads: \$ _____ (E)

Annual Signage Replacement and Inventory Projection: \$ _____ (32)

Number of Signs per year needing replacement (6) _____ Signs
 Cost Averaging per sign, post and installation (27) x \$ _____ Per sign
Total Annual Projected Cost for Sign Replacement and Inventory: \$ _____ (32)

Annual Grading requirement Projected Costs: \$ _____ (33)

Average number of miles needing shouldering per year (7) _____ Miles
 Average cost per mile of shouldering (28) x \$ _____ per mile
Total Annual Projected Cost for Shouldering: \$ _____ (33)

Long Range Road Maintenance and Reconstruction Budget Forecast:

PRIORITIZED BUDGET LISTING

Annual Signage Replacement and Inventory (32)	\$ _____
Annual Snow Removal and Salt/ Sand Budget (26)	\$ _____
Annual Ditch mowing and weed control budget (29)	\$ _____
Average Annual Asphalt Road Patching/Repairs/ Overlays (19)	\$ _____
Total Annual Grading of Gravel Roads: (C) \$ _____ + (D) \$ _____ =	\$ _____
Total Annual Crack-fill and Chip Seal of Asphalt Roads: (A)	\$ _____
SUBTOTAL PRIORITY BUDGET ITEMS:	\$ _____

Note: Priority Budget Items above take precedent over reconstruction needs. The following is funded as remaining budget allows.

Total Annual Asphalt Reconstruction Costs (B)	\$ _____
Total Annual Gravel Road Reconstruction Costs (E)	\$ _____

ANNUAL ROAD BUDGET REQUIRED: \$ _____ per yr

INFLATIONARY FACTOR AT 10 YR 2% PROJECTED ANNUAL INCREASE PER GREATER Minneapolis/St Paul 10yr average x 1.219

ADJUSTED LONG TERM ROAD BUDGET REQUIRED: \$ _____ per yr

ANNUAL ROAD BUDGET CURRENTLY ABLE TO FUND: \$ _____ per yr

PROJECTED UNFUNDED BUDGETARY NEEDS: \$ _____ per yr